

ABSTRACT OF THE DISCLOSURE

The invention relates to a fluid storage and delivery system utilizing a porous metal matrix that comprises at least one Group VIII metal or Group IB metal therein. In one aspect of the invention, such porous metal matrix forms a solid-phase metal adsorbent medium, characterized by an average pore diameter of from about 0.5 nm to about 2.0 nm and a porosity of from about 10% to about 30%. Such solid-phase metal adsorbent medium is particularly useful for sorptively storing and desoprotively dispensing a low vapor pressure fluid, e.g., ClF_3 , HF, GeF_4 , Br_2 , etc. In another aspect of the invention, such porous metal matrix forms a solid-phase metal sorbent, characterized by an average pore diameter of from about $0.25\mu\text{m}$ to about $500\mu\text{m}$ and a porosity of from about 15% to about 95%, which can effectively immobilize low vapor pressure liquefied gas and prevent the same from entering the fluid regulator as described in U.S. Patent No. 6,089,027.